

Myopia Control with Corneal Reshaping Contact Lenses

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Myopia affects a significant proportion of the world population, and corneal reshaping contact lenses were shown to slow the progression of the disease significantly. Thus, the findings of the randomized clinical trial reported by Cho and Cheung¹ potentially could affect millions of people almost immediately.

Three previously reported controlled studies indicated a slowing of eye growth association with corneal reshaping contact lens wear,²⁻⁴ but none of the studies assigned subjects randomly to treatment, therefore increasing the potential for bias. With the information presented by Cho and Cheung, we finally have definitive information from a randomized clinical trial that can be shared with patients.

On average, corneal reshaping contact lenses slow the growth of the eye by 43%, and younger children fit with corneal reshaping contact lenses experience a greater reduction of myopia progression than older children fit with these lenses. Furthermore, the beneficial effect of slowed myopia progression extends beyond the first year of treatment, which is not necessarily true for other forms of myopia control, such as atropine and multifocal spectacles.

Overall, this information provides insight into the mechanism of slowed myopia progression, and it provides clinicians with a method to slow myopia progression meaningfully without inducing significant side effects.

References

1. Cho P, Cheung SW. Retardation of Myopia in Orthokeratology (ROMIO) Study: a 2-year randomized clinical trial. *Invest Ophthalmol Vis Sci.* 2012;53:7077-7085.
2. Cho P, Cheung SW, Edwards M. The longitudinal orthokeratology research in children (LORIC) in Hong Kong: a pilot study on refractive changes and myopic control. *Curr Eye Res.* 2005;30:71-80.
3. Kakita T, Hiraoka T, Oshika T. Influence of overnight orthokeratology on axial elongation in childhood myopia. *Invest Ophthalmol Vis Sci.* 2011;52:2170-2174.
4. Walline JJ, Jones LA, Sinnott LT. Corneal reshaping and myopia progression. *Br J Ophthalmol.* 2009;93:1181-1185.